REMARKS

Claims 10-21 were previously pending in the application. This Amendment amends claim 21. Claims 10-20 remain unchanged. Claims 10, 16, 20, and 21 are independent.

Entry of this Amendment is proper because it does not raise any new issues requiring further search by the Examiner, narrows the issues on appeal, and is believed to place the present application in condition for immediate allowance.

The Drawing Objections

The drawings are objected to as failing to comply with 37 C.F.R. § 1.83(a) because the memory connected to the sensor (claims 10, 20) allegedly is not shown in the drawings. Particularly, the Office Action asserts that the memory (9) is connected to the electronics (7) but not to the sensor (8).

Applicants respectfully traverse this objection.

Applicants respectfully submit that sensors 5, 6, 8 very clearly are connected to the memory 9 via the diagnostic electronic system 7, as clearly shown in the Figure. Specifically, the Figure illustrates connecting lines between the sensors 5, 6, 8 and the diagnostic electronic system 7, and between the diagnostic electronic system 7 and the memory 9.

Thus, the features of the memory connected permanently to the sensor clearly are illustrated in the Figure.

Applicants respectfully request withdrawal of this objection.

The Claim Objections

The Office Action objects to claim 21 because of informalities. This Amendment amends claim 21 to correct the informalities, thereby obviating these objections.

Applicants respectfully request withdrawal of this objection.

The Claimed Invention

An exemplary embodiment of the claimed invention, as recited by, for example, independent claim 10, is directed to a household appliance comprising at least one sensor for detecting at least one operating parameter of the household appliance, a memory connected permanently to the sensor for periodically recording the value of the operating parameter detected by the sensor and an interface for reading out the content of the memory.

Another exemplary embodiment of the claimed invention, as recited by, for example, independent claim 16, is directed to a method for determining a cause of failure on a household appliance, the method comprising periodically detecting at least one operating parameter of the household appliance and recording the detected value in a memory at least during normal operation of the household appliance; reading out the memory in the case of a fault; tracing the cause of the fault from the parameter values which have been read out.

Another exemplary embodiment of the claimed invention, as recited by, for example, independent claim 20, is directed to a household appliance comprising at least one sensor for detecting at least one operating parameter of the household appliance, a memory connected permanently to the sensor for periodically recording the value of the operating parameter detected by the sensor, an interface for reading out the content of the memory, and a remote service device in selective operative communication with the interface for use by a service designate for diagnosing problems with the appliance.

Another exemplary embodiment of the claimed invention, as recited by, for example, independent claim 21, is directed to a method for determining a cause of failure on a household appliance, the method comprising periodically detecting at least one operating parameter of the household appliance and recording at least one detected value in a memory within the appliance at least during normal operation of the household appliance; reading out the memory in the case of a fault using an interface within the appliance; communicating with a remote service device in selective operative communication with the interface for use by a service designate for diagnosing problems

with the appliance; and determining the cause of the failure using parameter values which have been obtained from the appliance using the remote service device.

In this manner, the present invention provides an apparatus for recording data associated with appliance operation and moving that data to a remote device which can be used by service personnel to diagnose failures within the appliance.

The Rejections under 35 U.S.C. § 102

In the Office Action, claims 10 and 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by the Ishio et al. reference (US 6,553,774). Applicants respectfully traverse this rejection.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. [...] The identical invention must be shown in as complete detail as is contained in the ... claim." M.P.E.P. § 2131.

Applicants respectfully submit that the Ishio et al. reference does not disclose the features of the claimed invention including a memory connected permanently to the sensor for periodically recording the value of the operating parameter detected by the sensor and an interface for reading out the content of the memory, as recited by independent claim 10.

Independent claim 16 recites somewhat similar features.

As explained above, these features are important for providing an apparatus for recording data associated with appliance operation and moving that data to a remote device which can be used by service personnel to diagnose failures within the appliance.

The Ishio et al. reference very clearly does not disclose these features. Indeed, the Ishio et al. reference very clearly fails to disclose at least a memory connected permanently to the sensor for periodically recording the value of the operating parameter detected by the sensor and an interface for reading out the content of the memory, as recited in claim 10.

Instead, the Ishio et al. reference is directed to a self-diagnosing apparatus for a refrigerator, operable to a diagnosis level and beyond without input from service personnel. In the Ishio et al. reference, a detector is provided to detect a plurality of condition indicative quantities with respect to the refrigerator and a diagnosis arrangement which compares the condition indicative quantities or diagnosis calculation values which are calculated based on the condition indicative values with a predetermined threshold value and judges whether an operation of the refrigerator is normal or abnormal and ultimately selects a predetermined improvement action which is set in advance for diagnosed abnormal condition. See col. 1, lines 63-67; Col. 2, lines 1-7.

The present invention, as claimed, does not provide a self-diagnosing apparatus for a refrigerator, but rather provides a data recordation system which can provide data to a remote device for evaluation by service personnel to determine the failure cause within the appliance, either on-site or from a central service center. The present invention provides an interface for reading out the content of the memory, thereby providing the data to a remote device for evaluation by service personnel to determine the failure cause within the appliance, either on-site or from a central service center.

In stark contrast, the Ishio et al. reference does not provide an interface for reading out the content of the memory. Instead, the memory and diagnostic device of the Ishio et al. reference are entirely internal to the refrigerator and do not provide an interface for reading out the content of the memory. Indeed, since the Ishio et al. reference self-diagnoses and then selects a predetermined improvement action, the Ishio et al. reference has absolutely no need to read out the content of the memory.

The Ishio et al. reference very clearly does not disclose a memory connected permanently to the sensor for periodically recording the value of the operating parameter detected by the sensor and an interface for reading out the content of the memory, as recited by independent claim 10.

Independent claim 16 recites somewhat similar features. The Ishio et al. reference very clearly does not disclose a method for determining a cause of failure on a household

appliance, the method comprising periodically detecting at least one operating parameter of the household appliance and recording the detected value in a memory at least during normal operation of the household appliance; reading out the memory in the case of a fault; tracing the cause of the fault from the parameter values which have been read out, as recited in claim 16, for somewhat similar reasons as those set forth above.

Applicants respectfully request withdrawal of this rejection.

The Rejections under 35 U.S.C. § 103

In the Office Action, claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Ishio et al. reference in view of the Severn reference (GB 2 152 673). Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Ishio et al. reference. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over the Ishio et al. reference in view of the Finnegan et al. reference (US 4,482,785). Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Ishio et al. reference in view of the Yoshida et al. reference (US 6,438,973).

Applicants respectfully traverse these rejections.

The Severn reference

The Severn reference does not remedy the deficiencies of the Ishio et al. reference. The Severn reference teaches a telephone interface or cordless interface. Applicants respectfully submit that one of ordinary skill in the art would not have had any apparent reason to combine the Severn reference and the Ishio et al. reference. Further, there is no teaching or motivation to combine the Ishio et al. reference with the Severn reference.

As explained above, the Ishio et al. reference is directed to a self-diagnosing apparatus for a refrigerator, operable to a diagnosis level and beyond without input from service personnel. In the Ishio et al. reference, a diagnosis arrangement selects a predetermined improvement action which is set in advance for diagnosed abnormal conditions. Since the Ishio et al. reference self-diagnoses and then selects a

predetermined improvement action, the Ishio et al. reference has no need for the interface of the Severn reference to read out the content of the memory.

Thus, one of ordinary skill in the art would not have had any apparent reason to combine the Severn reference and the Ishio et al. reference. Further, there is no teaching or motivation to combine the Ishio et al. reference with the Severn reference.

The Finnegan et al. reference

The Finnegan et al. reference also does not remedy the deficiencies of the Ishio et al. reference. The Finnegan et al. reference is directed to a system where installations that involve large freezer compartment groups including large numbers of thermal sensors include means for determining the identity of an individual thermal sensor among many causing the alarm. As seen in Figure 1d, an optional remote control and monitor unit 12 serve to identify one of several sensors in a group that causes an alarm by sensor identity number assigned to each sensor. (Col. 7, lines 48-56).

Applicants respectfully submit that one of ordinary skill in the art would not have had any apparent reason to combine the Finnegan et al. reference and the Ishio et al. reference. Further, there is no teaching or motivation to combine the Ishio et al. reference with the Finnegan et al. reference.

As explained above, the Ishio et al. reference is directed to a self-diagnosing apparatus for a refrigerator, operable to a diagnosis level and beyond without input from service personnel. In the Ishio et al. reference, a diagnosis arrangement selects a predetermined improvement action which is set in advance for diagnosed abnormal conditions. Since the Ishio et al. reference self-diagnoses and then selects a predetermined improvement action, the Ishio et al. reference has no need for transferring the recorded parameter values from the household appliance, as allegedly taught by the Finnegan et al. reference.

Thus, one of ordinary skill in the art would not have had any apparent reason to combine the Finnegan et al. reference and the Ishio et al. reference. Further, there is no teaching or motivation to combine the Ishio et al. reference with the Finnegan et al. reference.

The Yoshida et al. reference

The Yoshida et al. reference does not remedy the deficiencies of the Ishio et al. reference.

Applicants respectfully submit that one of ordinary skill in the art would not have had any apparent reason to combine the Yoshida et al. reference and the Ishio et al. reference. Further, there is no teaching or motivation to combine the Ishio et al. reference with the Yoshida et al. reference.

As explained above, the Ishio et al. reference is directed to a self-diagnosing apparatus for a refrigerator, operable to a diagnosis level and beyond without input from service personnel. In the Ishio et al. reference, a diagnosis arrangement selects a predetermined improvement action which is set in advance for diagnosed abnormal conditions. Since the Ishio et al. reference self-diagnoses and then selects a predetermined improvement action, the Ishio et al. reference has no need for an interface to read out the content of the memory, as allegedly taught by the Yoshida et al. reference.

Thus, one of ordinary skill in the art would not have had any apparent reason to combine the Yoshida et al. reference and the Ishio et al. reference. Further, there is no teaching or motivation to combine the Ishio et al. reference with the Yoshida et al. reference.

For at least the foregoing reasons, none of the applied references discloses or suggests the subject matter defined by independent claims 10, 16, 20, and 21. Moreover, it would not have been obvious to combine the applied references to arrive at the features of independent claims 10, 16, 20, and 21.

Applicants respectfully request withdrawal of these rejections.

CONCLUSION

In view of the above, entry of the present Amendment and allowance of Claims 10-21 are respectfully requested. If the Examiner has any questions regarding this amendment, the Examiner is requested to contact the undersigned. If an extension of time for this paper is required, petition for extension is herewith made.

Respectfully submitted,

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